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Gender differences in obsessive-compulsive disorder: Findings from a large Indian sample

Anish V. Cherian [a,b,*], Janardhanan C. Narayanaswamy [a], Biju Viswanath [a], Nishi Guru [a,b], Cilna M. George [a], Suresh Bada Math [a], Thennarasu Kandavel [a], Y.C. Janardhan Reddy [a]

[a] National Institute of Mental Health and Neuro Sciences, Bangalore, India
[b] K.S. Hegde Medical Academy, Mangalore, India

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ABSTRACT

Aim: Gender has been considered as one of the possible factors mediating phenotypic expression of obsessive-compulsive disorder (OCD). We examined gender differences in a large sample of subjects with OCD from India with respect to socio-demographic parameters, symptom characteristics, and comorbidity patterns.
Methods: Consecutive patients ($n = 545$) who consulted a specialty OCD clinic over 5 years at a large psychiatric hospital in India were evaluated.
Results: Men ($n = 332$) compared to women ($n = 213$) with OCD had an earlier onset ($p < 0.001$), higher frequency of sexual ($p < 0.001$) and religious obsessions ($p = 0.001$) pathological doubts ($p < 0.001$) and checking ($p < 0.001$) and repeating compulsions ($p < 0.001$), and a greater tendency to have comorbid social phobia ($p = 0.006$). Women compared to men were more likely to be married, had a higher frequency of fear of contamination ($p = 0.017$), comorbid depression ($p = 0.014$) and greater suicidal risk ($p = 0.003$).
Conclusions: Our study provides further evidence for gender related differences in clinical features of obsessive-compulsive disorder. Our findings are only partly comparable with results from studies across the world possibly due to various biological and cultural factors mediating the phenotypic expression of OCD across the genders. There is a need to examine the biological basis for these gender differences.

Introduction

The prevalence of obsessive-compulsive disorder (OCD) ranges from 1 to 3% in the general population (Angst et al., 2004; Cillicilli et al., 2004; Karno et al., 1988; Mohammadi et al., 2004; Torres and Lima, 2005; Weissman et al., 1994) with a slightly higher prevalence rate among women (Karno et al., 1988; Swedo et al., 1989). OCD is a heterogeneous disorder (Mataix-Cols et al., 2005; Miguel et al., 2005; Samuels, 2009; Stein, 2000) with multiple factors contributing to heterogeneity in its manifestations including gender (Fischer et al., 1996–1997; Jaisoorya et al., 2009).

Gender related differences reported in previous studies include differences in age at onset (Weissman et al., 1994), phenomenology (Bogetto et al., 1999; Jaisoorya et al., 2009; Lensi et al., 1996; Noshirvani et al., 1991) and co-morbidity patterns (Bogetto et al., 1999; Lensi et al., 1996; Noshirvani et al., 1991). Women tend to have a later onset of OCD symptoms than men (Bogetto et al., 1999; Jaisoorya et al., 2009; Narayanaswamy et al., 2012; Nestadt et al., 1998; Rasmussen and Eisen, 1992). Some studies have also reported that women with OCD presented with an abrupt onset of illness having an episodic course with precipitating stressful life events, whereas men generally had an insidious onset with a chronic course and higher symptom severity (Castle et al., 1995; Fischer et al., 1996–1997; Lensi et al., 1996; Nestadt et al., 1998; Rosso et al., 2012).

Gender related differences exist in phenomenological expression of this illness, although results have been inconsistent across studies. Men seem to have a higher frequency of sexual, religious and symmetry/exactness obsessions, in addition to checking, ordering/arranging and hoarding compulsions, while obsessions related to contamination and washing/cleaning compulsions appear to be more common among women (de Mathis et al., 2008; Jaisoorya et al., 2009; Karadag et al., 2006; Labad et al., 2008; Tukel et al., 2004). In contrast, some studies have reported a greater occurrence of contamination/aggressive obsessions in men (Bogetto et al., 1999; Fischer et al., 1996–1997). Other studies did not find gender related phenomenological differences in OCD sufferers (Matsunaga et al., 2000).

* Corresponding author at: Department of Psychiatry, K.S. Hegde Medical Academy, Mangalore 575018, India. Tel.: +91 824 2203558; fax: +91 824 2202733.
E-mail address: anishvcherian@gmail.com (A.V. Cherian).

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Women with OCD have been reported to have higher rates of comorbid depression (de Mathis et al., 2011; Karadag et al., 2006; Labad et al., 2008; Sobin et al., 1999) and eating disorders (Bogetto et al., 1999; Fahy et al., 1993; Torresan et al., 2009). On the other hand, men with OCD have a higher frequency of comorbid social phobia (Bogetto et al., 1999; Jaisoorya et al., 2009), tic disorder (Bogetto et al., 1999; de Mathis et al., 2008, 2011), hypomania (Bogetto et al., 1999; Lensi et al., 1996) and alcohol dependence (Bogetto et al., 1999; Gentil et al., 2009; Sobin et al., 1999). Based on the literature review, we hypothesized that men would have an earlier onset of OCD and more sexual/religious obsessions, and women would have more fears of contamination and washing compulsions. We also expected to find higher rates of depression in women compared to men.

We examined the gender differences in the demographic, clinical and comorbidity patterns of a large sample of adult OCD subjects registered at a specialty OCD clinic in India.

Method

We analysed the data of all the 545 consecutive patients (men = 332, 61%; women = 213, 39%) who consulted the specialty OCD Clinic of the Department of Psychiatry, National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore between January 2004 and December 2009. The data on gender difference in OCD presented in this paper is derived as part of a larger study. The NIMHANS Ethics Committee approved the study. Trained post-graduate residents in psychiatry performed all the assessments and a senior consultant (YCJR or SBM) expert in assessing OCD subjects confirmed the DSM-IV diagnosis of OCD (APA, 2000) and associated features by reviewing all the available information. All patients had been evaluated with the Mini International Neuro-psychiatric Interview (MINI-version 5.0.0) (Sheehan et al., 1998), the Yale-Brown obsessive compulsive scale (YBOCS) that includes symptom checklist, severity rating scale and item 11 for insight (Goodman et al., 1989), and the Clinical Global Impression scale (CGI) (Guy, 1976). Tic disorders were assessed using relevant sections from the MINI Kid (Sheehan et al., 1998). Family history of OCD in first-degree relatives was determined by obtaining history from the proband and at least one immediate family member (usually parents and siblings).

The independent sample t test and the Chi-square/Fisher's exact test were used for comparison of continuous and categorical variables respectively. For univariate analysis, the significance was set at a conservative p value of ≤ 0.01 in view of the exploratory nature of the study. We performed multivariate logistic regression analysis for symptoms and comorbid conditions that had significant association with gender in the univariate analyses. Individual symptoms and comorbid conditions were used as binary response variables and age of onset and gender as covariates. Adjusted odds ratios with confidence intervals and significance values for gender effect are reported alongside significant values in the univariate analysis. For logistic regression, a p-value of <0.05 was considered significant.

Results

The demographic and phenomenological characteristics of the sample are shown in Table 1. Women were older, less educated and more likely to be married than men. The age at onset was significantly later in women. The duration of illness and duration of untreated illness were similar in both groups. Family history of any psychiatric illness and family history of OCD was comparable between both the genders. The severity of illness as assessed by the Y-BOCS severity rating was comparable across both the groups (Table 1).

Table 2 shows the comparison of symptom profiles between men and women. Men had a higher frequency of sexual/religious obsessions and pathological doubts, along with compulsions of checking, counting and repeating. Fear of contamination and washing/cleaning compulsions were significantly more common in women than in men. The degree of insight was not significantly different between the two groups.

Patterns of comorbidity are depicted in Table 3. A co-morbid axis I disorder was present in 60% ($n = 325$) of subjects. Social phobia was over-represented among men whereas major depression was over-represented in women. Suicidal risk was significantly higher in women compared to men.

In the logistic regression analysis (Tables 2 and 3), male gender was found to be significantly associated with sexual and religious obsessions, pathological doubts, checking, repeating and counting compulsions and comorbid social phobia. On the other hand, women had a significantly greater occurrence of fear of contamination and washing compulsions, comorbid major depression and suicidal risk.

Discussion

The literature on gender-related differences in OCD is relatively sparse. Our sample consists predominantly of men. A previous study from our centre which examined gender differences in OCD also had an over-representation by men (Jaisoorya et al., 2009). Most previous studies have reported a female predominance or roughly equal gender distribution (Shooka, 1998; Cillicilli et al.,

Table 1
Socio-demographic characteristics of the sample ($N = 545$).

	Male ($N = 332$) Mean (SD)/N (%)	Female ($N = 213$) Mean (SD)/N (%)	X^2/t	P
Age, years	27.24 (9.40)	32.58 (11.45)	−5.68	<0.001
Age at onset of OCD, years	19.61 (7.98)	25.19 (10.40)	−6.67	<0.001
Duration of OCD, years	7.64 (6.76)	7.41 (7.52)	0.37	0.78
Duration untreated OCD, years	5.24 (5.63)	4.80 (5.92)	0.84	0.40
Marital status				
Single/unmarried	252 (75.9)	63 (29.6)	116.74	<0.001
Married	79 (23.8)	142 (66.7)		
Widow/widower	1 (0.3)	4 (1.9)		
Divorce/separated	0	4 (0.7)		
Family history of OCD	55 (16.6)	43 (20.2)	1.15	0.30
Poor insight	26 (7.8)	21 (9.9)	0.677	0.44
Y-BOCS obsessions	12.25 (±3.80)	12.81 (±4.71)	−1.622	0.10
Y-BOCS compulsions	10.52 (±4.17)	11.38 (±5.47)	−1.845	0.06
Y-BOCS total	22.73 (±7.78)	24.21 (±8.75)	−2.060	0.04

X^2: chi square test; t: independent samples t test; $p < 0.05$ is statistically significant.